Legend:

Legende: = Transmitting/receiving IC
Sende-/Empfangs-IC

Treiber opt./elektr. Driver opt./electr.

| SE |

SI-Bus-Interface: SI bus Interface:
Telegramme mit Telegrams with
ID=3, ID=83 sendebereit ready for trans-
mission
Node
Teilnehmer μC2

| SI-IF |
| ID=3 |
| ID=83 |
| μC2 |

ID ident

elektrische Verbindung electrical
connection

Lichtwellenleiter
Light guide

Minimum Transit Time in the system:
min. Laufzeit im System: t_min = 180ns

max. Laufzeit im System: t_max = 440ns
Maximum Transit Time
in the System:

FIG. 1

delay_μC3 = 200ns

80ns

40ns

80ns

L3

| SE 31 |
| SI-IF |
| ID=2 |
| ID=21 |
| μC3 |

T3

SE 32

L2

| SE 22 |

K

| SE 21 |
| SI-IF |
| ID=1 |
| ID=83 |
| μC2 |

T2

delay_μC2 = 240ns

| μP |
| SI-IF |
| ID=3 |
| ID=40 |

T4

delay_μP = 0ns

SE 12

L1

delay_μC1 = 180ns

| SE 11 |

Busmaster

| SI-IF |
| ID=4 |
| ID=22 |
| μC1 |

T1

FIG.2

FIG.3

TlnA

Ende Sync-Puls von Teilnehmer TlnA=Busmaster gesendet
End sync pulse of node TlnA= Busmaster transmitted

TlnA

t_wx0_tx
t_wx0_rx

t_min

t_max

t_wx_delta t_wx_delta t_wx_delta

$ID-ID_{x-1}$

0   1   2   3   4

TlnB

t_wx0_rx
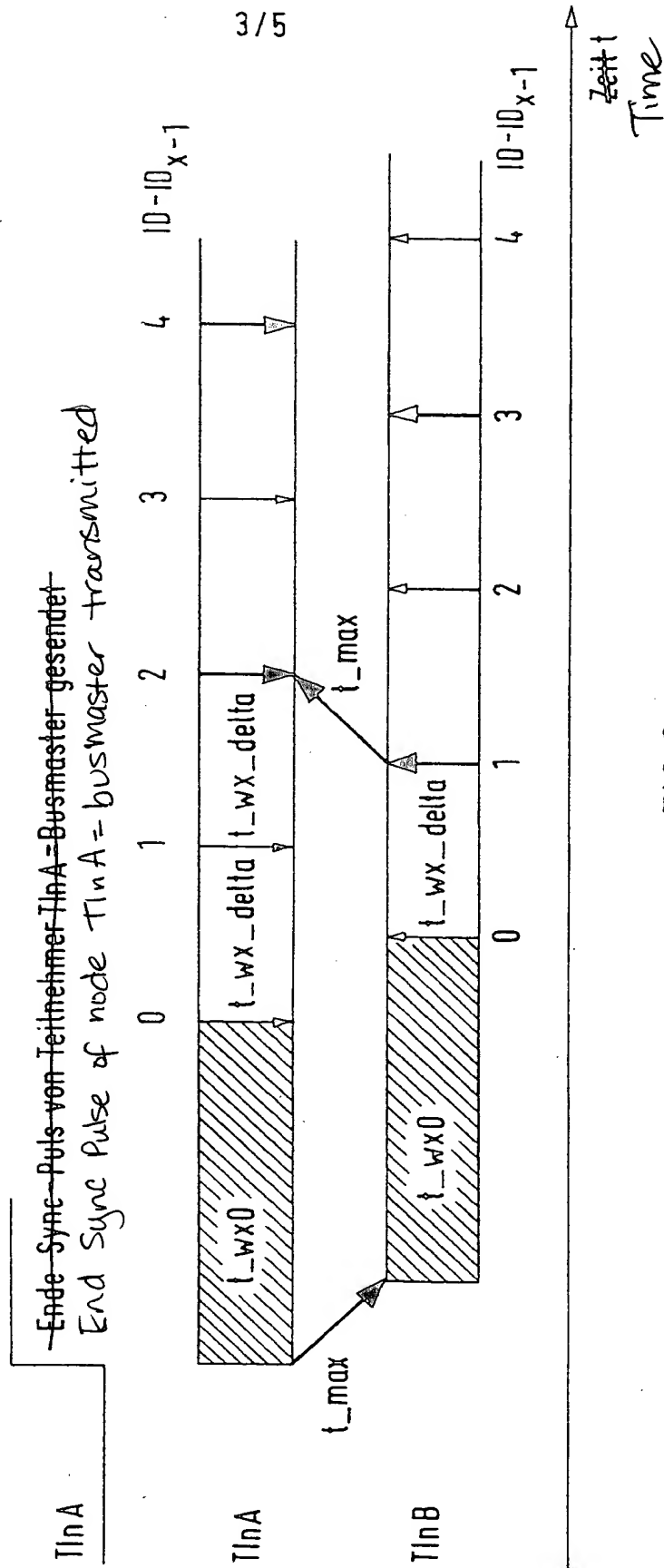
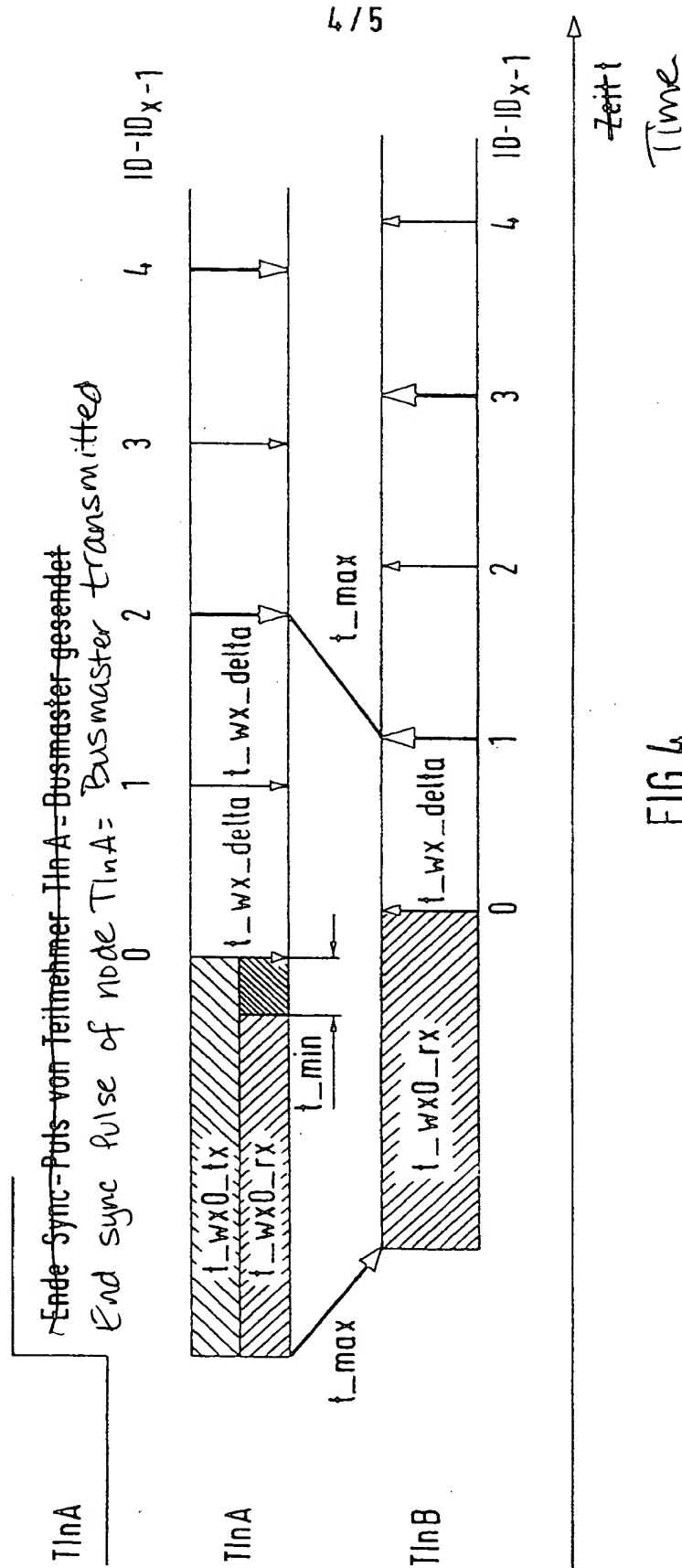t_wx_delta

t_max

$ID-ID_{x-1}$

0   1   2   3   4

Zeit t
Time

FIG.4

Transmission Start

Sendestart
ID=1
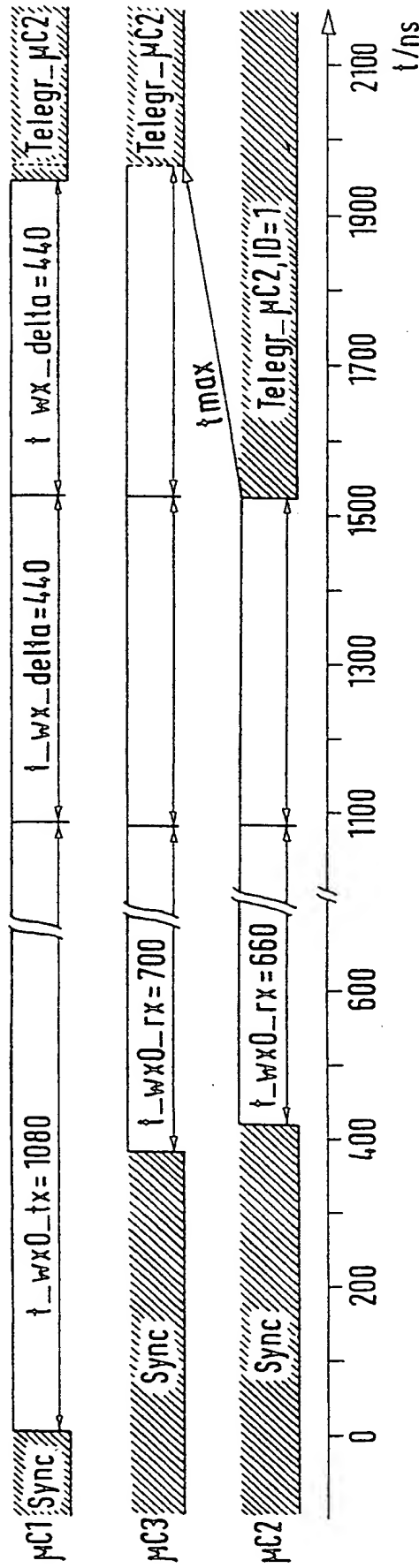
Sendestart Transmission Start
ID=2
unterdrückt Suppressed

μC1 Sync — t_wx0_tx=1080 — t_wx_delta=440 — t_wx_delta=440 — Telegr_μC2

μC3 Sync — t_wx0_rx=700 — Telegr_μC2

μC2 Sync — t_wx0_rx=660 — Telegr_μC2,ID=1

tmax

t/ns

0   200   400   600   1100   1300   1500   1700   1900   2100

FIG.5